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(54) **Title:** THE CONTINUOUS PRESSURE DECAY TEST

(57) **Abstract:** A continuous integrity test is performed on membranes in a membrane filtration system during the backwashing phase. The membrane pores are backwashed by applying a gas at a pressure below the bubble point to liquid permeate within the membrane lumens to displace the liquid permeate within the lumens through the membrane pores. An integrity test is performed on the membranes by allowing the gas pressure on the lumen side of the membrane walls to increase to a predetermined level above the pressure on the other side of the membrane walls, then isolating the lumen side of the membranes and measuring the reduction in gas pressure on the lumen side of the membrane walls resulting from gas passing through the membrane walls over a predetermined period. The measured reduction in pressure is then compared against a predetermined value to determine the integrity of said membranes.